

Amendments to the Claims

A complete list of pending claims follows:

Claims 1-70 (Previously Canceled)

71. (Canceled)

72. (Currently Amended) A method for scheduling production of at least one item on at least one manufacturing line (312) based upon customer orders and availability of materials used for the manufacture of the at least one item, said method comprising the steps of:

- (a) receiving at least one customer order for at least one item, the step of receiving the at least one customer order being performed by a work-in-progress (WIP) tracking and control module (320) executing on a computer system;
- (b) storing the at least one customer order for the at least one item as WIP data in a WIP data memory (322) of the computer system;
- (c) developing a list of materials and working schedules required to manufacture the at least one item, the steps of developing a list of materials and working schedules being performed by a scheduling module (330) from information comprising:
 - (1) the WIP data stored in the WIP data memory (322),
 - (2) available external inventory from an external communications module (340) coupled to an external visibility interface module (350) coupled to an external inventory memory (352),
 - (3) available in-house inventory from an inventory manager module (360) coupled to an in-house inventory memory (362),

- (4) in-transit inventory from an in-transit inventory memory (372) coupled to a delivery scheduling module (370) and
- (5) scheduling data from a scheduling data memory (332), all memories and modules executing on the computer system;
- (d) generating a work schedule for manufacturing the at least one item on the at least one manufacturing line (312), the step of generating the work schedule being performed by the work-in-progress (WIP) tracking and control module (320) executing on the computer system;
- (e) receiving truck arrival information from the at least one manufacturing line (312) and generating a truck arrival schedule to the delivery scheduling module (370), the steps of receiving the truck arrival information and generating the truck arrival schedule being performed by a truck scheduling module (375) executing on the computer system;
- (f) generating in-house and external material requests, the steps of generating the in-house and external material requests being performed by the delivery scheduling module (370) executing on the computer system;
- (g) repeating steps (a)-(f) until the at least one item has been manufactured;

~~The method according to claim 71, further comprising the steps of:~~

developing a plurality of material requirements from the list of materials generated by the scheduling module (330), wherein each material requirement of the plurality of material requirements comprises an identified material and a material need-by time;

identifying a next truck scheduled for delivery to the at least one manufacturing line (312), the next truck originating at a material source, the step of identifying the next truck being performed by a module executing on the computer system;

determining whether a following truck scheduled for delivery to the at least one manufacturing line (312) after the next truck has a material delivery time before the material need-by time of the material requirement, the step of determining being performed by a module executing on a computer system, and when the following truck has a material delivery time before the material need-by time,

delaying processing of the material requirement, and
when the following truck has a material delivery time after the material need-by time,

determining whether a later opportunity to request the identified material exists, and when a later opportunity exists,

delaying requesting the identified material and scheduling a delivery of the identified material, and

when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the at least one manufacturing line (312) on the next truck.

73. (Currently Amended) A method for scheduling production of at least one item on at least one manufacturing line (312) based upon customer orders and availability of materials used for the manufacture of the at least one item, said method comprising the steps of:

- (a) receiving at least one customer order for at least one item, the step of receiving the at least one customer order being performed by a work-in-progress (WIP) tracking and control module (320) executing on a computer system;
- (b) storing the at least one customer order for the at least one item as WIP data in a WIP data memory (322) of the computer system;
- (c) developing a list of materials and working schedules required to manufacture the at least one item, the steps of developing a list of materials and working schedules being performed by a scheduling module (330) from information comprising:
 - (1) the WIP data stored in the WIP data memory (322),
 - (2) available external inventory from an external communications module (340) coupled to an external visibility interface module (350) coupled to an external inventory memory (352),
 - (3) available in-house inventory from an inventory manager module (360) coupled to an in-house inventory memory (362),
 - (4) in-transit inventory from an in-transit inventory memory (372) coupled to a delivery scheduling module (370) and
 - (5) scheduling data from a scheduling data memory (332), all memories and modules executing on the computer system;
- (d) generating a work schedule for manufacturing the at least one item on the at least one manufacturing line (312), the step of generating the work schedule being performed by the work-in-progress (WIP) tracking and control module (320) executing on the computer system;

- (e) receiving truck arrival information from the at least one manufacturing line (312) and generating a truck arrival schedule to the delivery scheduling module (370), the steps of receiving the truck arrival information and generating the truck arrival schedule being performed by a truck scheduling module (375) executing on the computer system;
- (f) generating in-house and external material requests, the steps of generating the in-house and external material requests being performed by the delivery scheduling module (370) executing on the computer system;
- (g) repeating steps (a)-(f) until the at least one item has been manufactured;

The method according to claim 71, further comprising the steps of:

obtaining a material requirement for an operation of at least one operation on the manufacturing line (312), the material requirement comprising an identified material and a material need-by time, the step of obtaining the material requirement being performed by a module executing on the computer system;

identifying a next truck scheduled for delivery to the operation, the next truck originating at a material source, the step of identifying the next truck being performed by a module executing on the computer system;

determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement, the step of determining being performed by a module executing on a computer system, and

when the following truck has a material delivery time before the material need-by time, delaying processing of the material requirement, and

when the following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists, and when a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material, and when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck.